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| 10/764,461 | 01/27/2004 | Ting-Wen Su | TOP 280 | 1176 |

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| EXAMINER | |
|---|---|
| GUPTA, PARUL H | |
| **ART UNIT** | **PAPER NUMBER** |
| 2627 | |

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|---|---|
| 01/22/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/764,461 | SU ET AL. | |
| | Examiner | Art Unit | |
| | Parul Gupta | 2627 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *10 October 2007*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

1. Claims 1-31 are pending for examination as interpreted by the examiner. The arguments and amendment filed on 10/10/07 were also considered.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-22 and 27-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishimura et al., US Patent Publication 2001/0026512.

Regarding claims 1, 7, and 13, Nishimura et al. discloses a method and apparatus (shown in figure 1) for generating a wobble signal of an optical-electronic system, comprising: a first operation unit (111 and 112) for generating a reference signal by attenuating a first input signal and a second input signal (outputs of 111 and 112) that are derived from a plurality of continuous light signals reflected from an optical storage medium (signals from a-d); and using a processing unit (21 and 22) to process the reference signal to generate the wobble signal, wherein the plurality of continuously reflected light signals is used to derive the first input signal and the second input signal for generating the reference signal even when the optical-electronic system is recording data onto the optical storage medium (abstract).

Regarding claim 2, Nishimura et al. discloses in figure 1 the method for generating a wobble signal as claimed in claim 1, wherein the plurality of light signals

comprises a first light signal, a second light signal, a third light signal, and a fourth light signal that are all used for generating the reference signal continuously. Four separate signals are shown coming from each of elements a-d of elements 2 and 3 that each represent a different light signal.

Regarding claims 3 and 9, Nishimura et al. discloses in figure 1 the method for generating a wobble signal as claimed in claims 1 and 7, respectively, further comprising a step of attenuating the first input signal and the second input signal (done by elements 113 and 114) before the first input signal and the second input signal being used to generate the reference signal (output of element 117).

Regarding claims 4, 10, and 27, Nishimura et al. discloses the method and apparatus (shown in figure 1) for generating a wobble signal as claimed in claims 3, 9, and 23, respectively, further comprising a step of amplifying the reference signal (done by elements 113 and 114) before the reference signal, or first input signal and the second input signal, being processed for generating the wobble signal by using an amplifier (part of elements 113 and 114) coupled between the first operation unit (elements 111 and 112) and the processing unit (elements 21 and 22).

Regarding claims 5, 11, 16, and 29, Nishimura et al. discloses in figure 1 the method and apparatus for generating a wobble signal as claimed in claims 1, 7, 13, and 28, respectively, wherein the reference signal is substantially a multiplication of a factor (amplification performed) and a difference between the first input signal and the second input signal (done by subtracting circuit of element 117).

Regarding claims 6, 12, 17, and 30, Nishimura et al. discloses the method and apparatus for generating a wobble signal as claimed in claims 5, 11, 16, and 28, respectively, wherein the factor is a substantial ratio of resistances that are used for attenuating the first input signal and the second input signal. The given circuit used for attenuating the signals of elements 111-114 of figure 1 use resistors to alter the signal. Thus, the factor of multiplication is a ratio of these resistances.

Regarding claims 8 and 14, Nishimura et al. discloses in figure 1 the method and apparatus for generating a wobble signal as claimed in claims 7 and 13, respectively, wherein the plurality of continuous light signals comprises a first light signal, a second light signal, a third light signal, and a fourth light signal that are all used to derive the first input signal and the second input signal for generating the reference signal continuously. The four separate signals are shown coming from each of elements a-d of elements 2 and 3 that each represent a different light signal.

Regarding claim 15, Nishimura et al. discloses in figure 1 the wobble signal generating apparatus as claimed in claim 14, wherein the first input signal (output of element 112) is substantial a summation of the first light signal (output of a) and the fourth light signal (output of d) and the second input signal (output of element 111) is substantial a summation of the second light signal (output of b) and the third light signal (output of c).

Regarding claim 18, Nishimura et al. discloses the wobble signal generating apparatus as claimed in claim 13, wherein the first operation unit (adding circuit of elements 111 and 112 of figure 1) comprises a non-inverting terminal, an inverting

terminal and an output terminal, the non-inverting terminal receives the first input signal and the inverting terminal receives the second input signal for generating and delivering the reference signal via the output terminal (inherent operation of an adding circuit ).

Regarding claim 19, Nishimura et al. discloses in figure 1 the wobble signal generating apparatus as claimed in claim 18, further comprising: a first attenuator (113) coupled with the first operation unit (111) for attenuating the first input signal; and a second attenuator (114) coupled with the first operation unit (112) for attenuating the second input signal, wherein the first input signal and the second input signal are attenuated before being used for generating the reference signal (done by 117).

Regarding claim 20, Nishimura et al. discloses the wobble signal generating apparatus as claimed in claim 19, further comprising an extra attenuator (resistor inherently part of element 111 and 112 of figure 1) coupled between the output terminal, and one of the non-inverting terminal and the inverting terminal of the first operation unit (elements 111 and 112 of figure 1). An adding circuit always has the extra resistor as described.

Regarding claim 21, Nishimura et al. discloses the wobble signal generating apparatus as claimed in claim 20, wherein the extra attenuator, the first attenuator and the second attenuator are all resistors. The configuration above explains how all attenuation is done through resistors. The high pass filters also use resistors to serve this purpose of attenuation.

Regarding claim 22, Nishimura et al. discloses the wobble signal generating apparatus as claimed in claim 13 wherein the first operation unit (111 and 112)

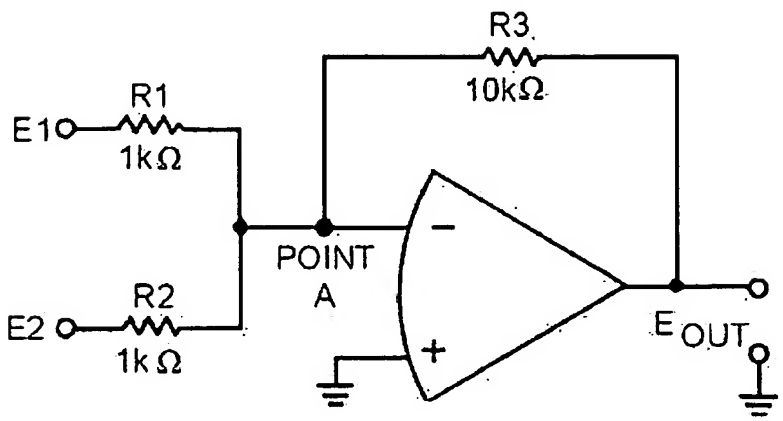
comprises an inverting terminal, a non-inverting terminal and an operational output terminal, the inverting terminal receives the first input signal and the non-inverting terminal receives the second input signal for generating and delivering the reference signal via the output terminal. The given unit is an adder, which always has the configuration given.

Regarding claim 28, Nishimura et al. discloses a wobble signal generating apparatus of an optical-electronic system (figure 8), comprising: a first operation circuit (112, 114, and 22) continuously generating a first input signal according to a first light signal (a) and a fourth light signal (d) reflected from an optical storage medium, wherein the first operation circuit comprises: a first operational amplifier (part of 111, which is shown in more detail below labeled adder) having a first grounding non-inverting terminal, a first inverting terminal, and a first output terminal; a first resistor (R1) coupled to the first inverting terminal and receiving the first light signal; a second resistor (R2) coupled to the first inverting terminal and receiving the fourth light signal; and a third resistor (R3) coupled between the first inverting terminal and the first output terminal; a second operation circuit (111, 113, and 21) continuously generating a second input signal according to a second light signal (b) and a third light signal (c) reflected from the optical storage medium, wherein the second operation circuit comprises: a second operational amplifier (111) having a second grounding non-inverting terminal, a second inverting terminal, and a second output terminal; a fourth resistor (R1) coupled to the second inverting terminal and receiving the second light signal; a fifth resister (R2) coupled to the second inverting terminal and receiving the third light signal; and a sixth

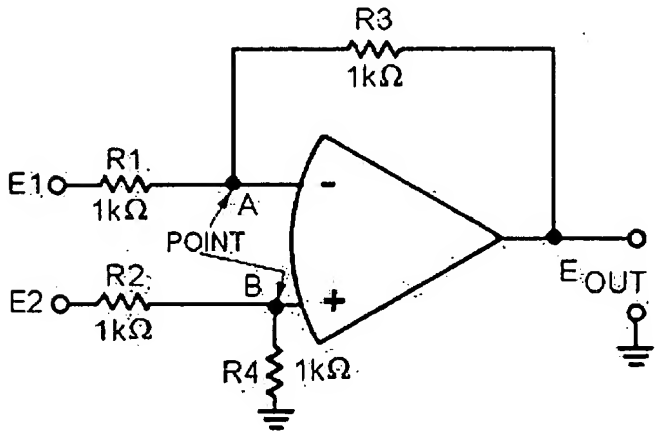
resistor (R3) coupled between the second inverting terminal and the second output terminal; a third operation circuit (117 and 28) continuously generating a reference signal according to the first input signal and the second input signal, wherein the third operation circuit (element 117 is shown in more detail below) comprises: a third operational amplifier having a third non-inverting terminal (E2), a third inverting terminal (E1), and a third output terminal (Eout); a seventh resistor (R1) coupled between the first output terminal and the third inverting terminal, and receiving the first input signal; an eighth resistor (R2) coupled between the second output terminal and the third non-inverting terminal, and receiving the second input signal; and a ninth resistor (R3) coupled between the third inverting terminal and the third output terminal; and a processing unit (28) for processing the reference signal to generate the wobble signal.

Regarding claim 31, Nishimura et al. discloses in figure 8 the wobble signal generating apparatus as claimed in claim 28, further comprising a gainer (28) coupled between the third operation circuit (117) and the processing unit (used to finish the process although not shown) for amplifying the reference signal before being processed generating the wobble signal.

Adder:




Subtractor:




***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nisimura et al.

Regarding claim 23, Nishimura et al. teaches in figure 1 the wobble signal generating apparatus as claimed in claim 22, further comprising: a second operation unit (113) couples to the first operation unit (111), comprising a grounding non-inverting terminal, a non-inverting terminal, and an output terminal, wherein the non-inverting terminal receives some of the plurality of reflected light signals for generating and delivering the first input signal via the output terminal; and a third operation unit (114) couples to the first operation unit (112), comprising a grounding non-inverting terminal, a non-inverting terminal, and an output terminal, wherein the non-inverting terminal receives others of the plurality of reflected light signals for generating and delivering the second input signal via the output terminal. In the given reference, elements 113 and 114 actually each comprise one grounding non-inverting terminal and one inverting terminal, although they perform the same function. Official notice is taken that it is well known in the art to use two non-inverting terminals to perform the same function as the inverting amplifiers of Nishimura et al. It would be obvious to use this circuit because it is an art recognized equivalent circuit that is used in the same environment, for the same purpose, to achieve the same result.

Regarding claim 24, Nishimura et al. teaches in figure 1 the wobble signal generating apparatus as claimed in claim 23, further comprising: a first attenuator (113) coupled with the first operation unit (111) for attenuating the first input signal; a second

attenuator (114) coupled with the first operation unit (112) for attenuating the second input signal; a third attenuator (21) coupled with the second operation unit (113) for attenuating the plurality of reflected light signals; and a fourth attenuator (22) coupled with the third operation unit (114) for attenuating the plurality of reflected light signals, wherein the first input signal and the second input signal are attenuated before being used for generating the reference signal, and the plurality of the reflected light signals are attenuated before being used for generating the first and the second input signal (inputs to element 117).

Regarding claim 25, Nishimura et al. teaches the wobble signal generating apparatus as claimed in claim 24, further comprising: a first extra attenuator (resistor inherently part of element 111) coupled between the output terminal and one of the non-inverting terminal and the inverting terminal of the first operation unit (111); a second extra attenuator (resistor inherently part of element 112) coupled between the output terminal and the non-inverting terminal of the second operation unit (112); and a third extra attenuator (resistor inherently part of element 113) coupled between the output terminal and the non-inverting terminal of the third operation unit (113), wherein a factor substantially equal to a ratio derived from characteristic values of the first extra attenuator, the second extra attenuator, the third extra attenuator, the first attenuator, the second attenuator, the third attenuator, and the fourth attenuator (properties of the gain of a filter).

Regarding claim 26, Nishimura et al. teaches the wobble signal generating apparatus as claimed in claim 25, wherein the first extra attenuator, the second extra

attenuator, the third extra attenuator, the first attenuator, the second attenuator, the third attenuator, and the fourth attenuator are all resistors. The high pass filters and automatic gain control circuits are all comprised of resistors. Thus, the attenuation is a result of these resistances.

***Response to Arguments***

4. Applicant's arguments filed on 10/10/06 have been fully considered but they are not persuasive.

5. Applicant contends that Nishimura et al. does not teach "the plurality of reflected light signals used for generating the reference signal even when the optical-electronic system is recording data onto the optical storage medium" in the disclosure. However, the examiner disagrees. Figure 8 for example shows a plurality of reflected light signals a-d that are used for generating the signal as seen in the figure. As for the argument that this is not occurring while data is recorded, paragraph 0005 shows that it is conventional to reproduce the wobble signal (the process of which generating the reference signal is one part) while the laser spot is irradiated on a disk to write information.

6. Applicant contends that Nishimura et al. does not teach amplifying the reference signal before the reference signal is processed for generating the wobble signal as the high band pass filters are used for attenuating frequencies outside of a range instead of amplifying the signal. However, the examiner disagrees. Figure 8 shows the process that the signal undergoes. The process includes going through an AGC, which includes

an amplifier as shown in figure 9. Although the signal undergoes other processes, the signal is still amplified by the AGC.

7. Applicant contends that the Nishimura et al. does not teach that "the reference signal is substantially a multiplication of a factor and a difference between the first input signal and the second input signal and the factor is a substantial ratio of resistances that are used for attenuating the first input signal and the second input signal" in the disclosure. However, the examiner disagrees. The gain of the filters is based on the ratio of resistances. Element 117 is a subtractor that yields the difference between the two input signals. Thus, the finished signal is the difference between two signals that are determined by a ratio of resistances.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG
12/25/07

/William Korzuch/
SPE, Art Unit 2627